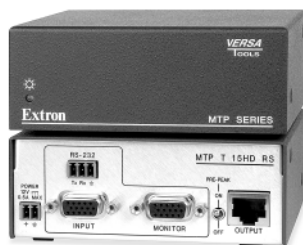


MTP T 15HD RS, MTP R 15HD RS, MTP RL 15HD RS, & MTP RL 15HD RS SEQ

MINI TWISTED PAIR TRANSMITTERS AND RECEIVERS FOR
COMPUTER VIDEO AND RS-232

- Compatible with computer-video resolutions up to 1600 x 1200
- Compatible with RGBHV, RGBS, RGsB, component video, S-video, and composite video
- Compatible with HDTV component video (bi-level and tri-level sync)
- Sends and receives bi-directional RS-232 serial control signals
- Buffered UTP loop output (MTP RL models only)
- Continuously variable level and peaking controls on the receivers
- Skew delay equalizer provides individual RGB delay controls (MTP RL 15HD RS SEQ only)



MTP T 15HD RS



MTP R 15HD RS



MTP RL 15HD RS



MTP RL 15HD RS SEQ

The Extron MTP 15HD RS Series consists of economical, compact Mini Twisted Pair (MTP) transmitters and receivers for simultaneously sending high resolution computer-video and RS-232 serial control signals over a single unshielded twisted pair (UTP) cable.

The Extron **MTP 15HD RS** Series is a versatile family of mini twisted pair transmitters and receivers for transmitting high resolution computer-video and RS-232 serial control signals long distances to presentation displays over a single unshielded twisted pair cable (UTP cable). They are compatible with resolutions up to 1600 x 1200 (UXGA) for cable runs of up to 600 feet (185 meters) with XGA signals, and 450 feet (135 meters) with UXGA signals.

The MTP 15HD RS Series is ideal for systems where high resolution video signals must be transmitted long distances to a display, or where space is limited in conduit, or for systems where cabling might be exposed. Ideal applications include public information displays at airports, museums, movie theaters, and hotels.

MTP 15HD RS Models

MODEL	TYPE	FEATURES		
		Level & Peaking Controls	Buffered UTP Loop Output	Skew Delay Equalizer
MTP T 15HD RS	Transmitter			
MTP R 15HD RS	Receiver			
MTP RL 15HD RS	Receiver			
MTP RL 15HD RS SEQ	Receiver			

Compact Transmitters and Receivers

The MTP T 15HD RS transmitter sends RGBHV high resolution video and RS-232 signals to a compatible MTP R 15HD RS, MTP RL 15HD RS, or MTP RL 15HD RS SEQ receiver. The MTP 15HD RS series can be used with any Category 5, 5e, or 6 twisted pair cable or with Extron Enhanced Skew-Free™ A/V UTP cable (patent pending). All three MTP 15HD RS receiver models offer separate continuously variable level and peaking adjustments that precisely optimize image quality for various UTP cable lengths. MTP transmitters and receivers are compact so they can fit just about anywhere: in equipment racks, under tables and desktops, or next to a projector.

Buffered UTP Loop Through Output

The Extron MTP RL 15HD RS Mini Twisted Pair Receiver with Loop Through features an added female RJ-45 buffered UTP output, enabling up to eight receivers to be connected in series, reducing the number of parallel cable runs required (see application diagram to the right).

Integrated Skew Delay Equalization

The MTP RL 15HD RS SEQ features an integrated skew delay equalizer. Skew delay is the color misalignment present in twisted pair A/V systems using Category 5, 5e or 6 cable in which the red, green, and blue video signals arrive at the display at different times (see figure 1). Using Extron's skew delay equalizer technology, the arrival of color signals is synchronized, improving image quality while maintaining full signal integrity (see figure 2).

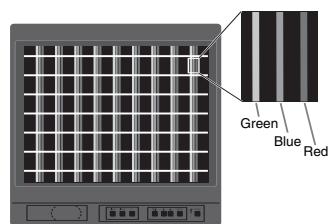


Figure 1
Red, and Blue video signals are arriving after the Green signal requiring skew delay equalization

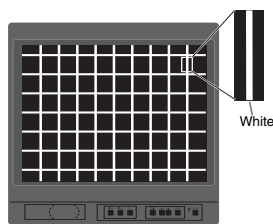
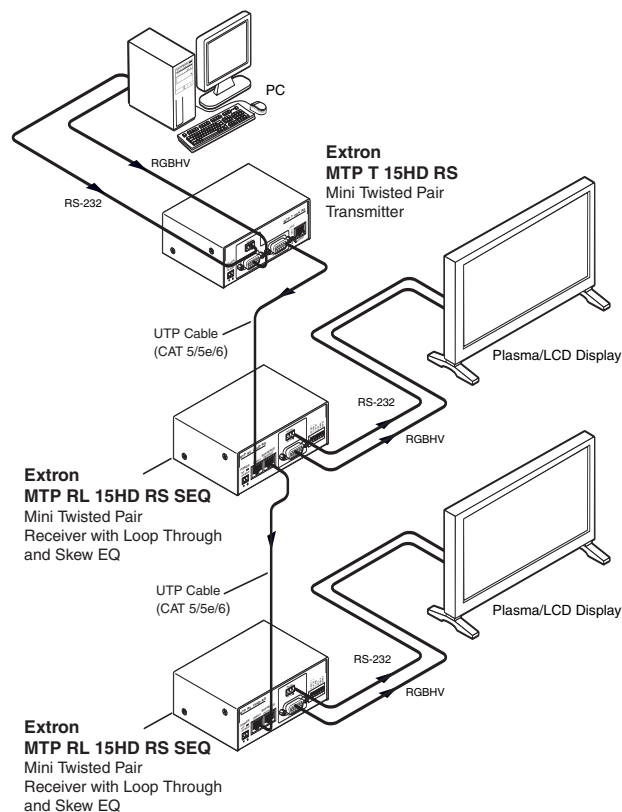


Figure 2
All video signals are now properly aligned as a result of using skew delay equalization

- **High resolution compatibility** – Supports resolutions up to 1600 x 1200 (UXGA)
- **Supports multiple video formats** – Compatible with RGBHV, RGBS, RGB, component video, S-video, and composite video
- **HDTV compatibility** – Compatible with HDTV component video (bi-level and tri-level sync)
- **Transmits RS-232 signals** – Bi-directional and uni-directional RS-232 signals can be extended hundreds of feet beyond its usual 50 foot limit
- **Pre-peaking switch on MTP T 15HD RS** – Provides additional compensation at the front end for the longest cable runs
- **Continuously variable level and peaking** – Optimizes the output signal for any cable length (receivers only)
- **Buffered UTP loop output** – Up to eight receivers can be linked together in series using the buffered UTP loop output, reducing cable requirements and simplifying installation (MTP RL 15HD RS & MTP RL 15HD RS SEQ)
- **Independent skew delay compensation adjustments for each color** – Correct for timing delays (skew) caused by UTP cable (MTP RL 15HD RS SEQ only)
- **Compact metal enclosure** – 1U, quarter rack width metal enclosure
- **Versatile mounting options** – Rack, under-desk, and projector-mountable
- **Power supply** – External international power supply included (part number 70-055-01)



VIDEO

Gain	Unity
Number/signal type	1 set of proprietary analog signals
Connectors	1 female RJ-45

VIDEO INPUT – Transmitter

Number/signal type	1 analog RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, or composite video
Connectors	1 buffered RGBHV, RGBS, RGsB, RsGsBs local monitor loop through (includes ID bits)
Connectors	2 female 15-pin HD
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB
	0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	0.3 V to 1.45 Vp-p
Impedance	75 ohms
Horizontal frequency	15 kHz to 130 kHz
Vertical frequency	30 Hz to 150 Hz
Return loss	<-30 dB @ 5 MHz
DC offset (max. allowable)	250 mV

VIDEO OUTPUT – Receivers

Number/signal type	
MTP R 15HD RS	1 analog RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, or composite video
MTP RL 15HD RS, MTP RL 15HD RS SEQ	
	1 set of proprietary analog signals
	1 analog RGBHV, RGBS, RGsB, RsGsBs, component video, S-video, or composite video
Connectors	
MTP RL 15HD RS, MTP RL 15HD RS SEQ	
	1 female RJ-45
	1 female 15-pin HD
MTP R 15HD RS	1 female 15-pin HD
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB
	0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Minimum/maximum levels	0.3 V to 1.45 Vp-p
Impedance	75 ohms
Return loss	<-30 dB @ 5 MHz
DC offset	<±20 mV with input at 0 offset

SYNC

Input type (transmitter)	RGBHV, RGBS, RGsB, RsGsBs
Output type (receivers)	RGBHV, RGBS, RGsB, RsGsBs
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level (transmitter)	3.5 V to 5.5 Vp-p, unterminated
Output level (receivers)	4.0 V to 5.5 Vp-p, unterminated
Input impedance	510 ohms
Output impedance	110 ohms
Max. input voltage	5.5 Vp-p
Polarity	
Transmitter	Positive or negative (follows input polarity)
Receivers	Positive or negative (switch selectable)

CONTROL/REMOTE — external device (pass-through, unidirectional or bidirectional)

Serial control port input/output	
MTP T 15HD RS	RS-232 via (1) 3.5 mm, 3 pole captive screw connector
Receivers	1 set of proprietary signals on a female RJ-45 jack
Serial control port output/input	
MTP T 15HD RS	1 set of proprietary signals on a female RJ-45 jack
Receivers	RS-232 via a 3.5 mm, 3 pole captive screw connector
NOTE: The serial communications link of an MTP RL 15HD RS or MTP RL 15 HD RS SEQ is unidirectional only, transmitter to receiver, unless the receiver's directional jumper has been repositioned. The jumper should be repositioned only when the receiver is the only one in the system.	
Baud rates	Up to 38400 bps at up to 600' (183 m) (Higher data rates and distances are possible. Performance will vary based on baud rate and cable length.)
Protocol	Data bits = 5 - 8 Stop bits = 1 or 2 Parity = odd, even, none Flow control = XON, XOFF, none
NOTE: Protocol is mirrored between the transmitter and the receiver.	
Serial control pin configurations	Captive screw connectors: 1 = TX, 2 = RX, 3 = GND

GENERAL

External power supply	100 VAC to 240 VAC, 50/60 Hz, external, autoswitchable; to 12 VDC, 1 A, regulated
Power input requirements	12 VDC, 0.5 A
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Rack mount	Yes, with optional 1U rack shelf, part #60-190-01 or 60-604-01; or VersaTools® rack shelf, part #60-190-20 or 60-604-20 Also furniture mountable with optional Mini Under-Desk Mounting Kit, part #70-212-01; or projector mountable with optional projector mounting kit, part #70-217-01
Enclosure type	Metal
Enclosure dimensions	1.7" H x 4.3" W x 3.0" D (1U high, quarter rack wide) 4.3 cm H x 10.9 cm W x 7.6 cm D (Depth excludes connectors.)
Product weight	0.4 lbs (0.2 kg)
Shipping weight	2 lbs (1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor
NOTE: All nominal levels are at ±10%	

Model Part Numbers

MTP T 15HD RS	60-652-01
MTP R 15HD RS	60-653-01
MTP RL 15HD RS	60-735-01
MTP RL 15HD RS SEQ	60-735-02

